



STIC Search Report

801 328 1707

EIC 2100

STIC Database Tracking Number: 137265

TO: Baoquoc To
Location: RND, 3B31
Art Unit : 2162
Monday, November 08, 2004

Case Serial Number: 09/768747

From: David Holloway
Location: EIC 2100
RND 4B19
Phone: 2-3528

david.holloway@uspto.gov

Search Notes

Dear Examiner To,

Attached please find your search results for above-referenced case.
Please contact me if you have any questions or would like a re-focused search.

David





STIC EIC 2100 137265

Search Request Form (44)

Today's Date:

11/05/04

What date would you like to use to limit the search?

Priority Date: 01/24/04 Other:

Name TD, BAO DUOC

AU 2162 Examiner # 78889

Room # 3B31 Phone 571-272-4041

Serial # 091 768 747

Format for Search Results (Circle One):

☒ PAPER

☐ DISK

☐ EMAIL

Where have you searched so far?

☒ USP

☒ DWPI

☒ EPO

☒ JPO

☐ ACM

☐ IBM TDB

☐ IEEE

☐ INSPEC

☐ SPI

☐ Other

Is this a "Fast & Focused" Search Request? (Circle One) ☒ YES ☐ NO

A "Fast & Focused" Search is completed in 2-3 hours (maximum). The search must be on a very specific topic and meet certain criteria. The criteria are posted in EIC2100 and on the EIC2100 NPL Web Page at <http://ptoweb/patents/stic/stic-tc2100.htm>.

What is the topic, novelty, motivation, utility, or other specific details defining the desired focus of this search? Please include the concepts, synonyms, keywords, acronyms, definitions, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract, background, brief summary, pertinent claims and any citations of relevant art you have found.

— updating clay token

① clay message

② edge content

— interprets the ~~clay~~ token

— ready mix parts

Microsoft. any no.

STIC Searcher David Holloway

Phone 2-3528

Date picked up 11-8-04

Date Completed 11-8-04



Set	Items	Description
S1	2089267	PUSH? OR PULL? OR DELIVER? OR TRANSMIT? OR SEND?
S2	420605	SYNC OR SYNCHRON? OR SYNCs OR UPDAT? OR UP() (DATE? OR DATI- NG) OR VERSIONING OR REVIS?
S3	59886	MISSING OR LOST OR UNRECEIV? OR "NOT"(N) (RECEIV? OR DELIVE- R?) OR UNDELIVER?
S4	2816	(NON OR "NOT" OR WITHOUT OR UNNECESSAR?) (3N) (ACK? ? OR ACK- NOWLED? OR NOTIFICATION? OR RECEIPT?)
S5	17	S1 AND S2 AND S3 AND S4
S6	17	IDPAT (sorted in duplicate/non-duplicate order)
S7	17	IDPAT (primary/non-duplicate records only)
S8	32662	RESEND? OR RETRANSMIT? OR S1(2N) (AGAIN? OR REPEAT? OR RECU- RS? OR REITERAT?)
S9	48	S2 AND S3 AND S8
S10	45	S9 NOT S7
S11	16	S10 AND IC=G06F?

File 347:JAPIO Nov 1976-2004/Jul(Updated 041102)
(c) 2004 JPO & JAPIO

File 350:Derwent WPIX 1963-2004/UD,UM &UP=200471
(c) 2004 Thomson Derwent

7/5/2 (Item 2 from file: 350)
DIALOG(R) File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

016491380 **Image available**
WPI Acc No: 2004-649324/200463
XRPX Acc No: N04-513314

Packet count maintaining method for data transmission system, involves modifying count to correct for packet loss if normal acknowledgement has not been received at the end of resynchronization period

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: CASPER D F; CRADDOCK D F; DUGAN R J; FRAZIER G R; LU T
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6785241	B1	20040831	US 99452992	A	19991202	200463 B

Priority Applications (No Type Date): US 99452992 A 19991202

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6785241	B1	11	H04L-012/56	

Abstract (Basic): US 6785241 B1

NOVELTY - The method involves **sending** special packets during a resynchronization period from a node and receiving special acknowledgements responsive to special packet. The period begins with the **sending** and receiving of the special packets. At an end of a **resynchronization** period in a node a normal **acknowledgement** has **not** been received is detected, based on which a count is modified to correct for packet loss.

USE - Used for maintaining the count at a node indicating the ability of a data transmission system to accept the additional packet transmission (claimed).

ADVANTAGE - The method allows for a **sender** and a receiver to periodically **synchronize** with each other, and reclaim any **lost** buffer credits. The method provides for a sensor to maintain the sense of availability of a buffer memory even when acknowledging messages are **lost** with minimal impact on performance.

DESCRIPTION OF DRAWING(S) - DESCRIPTION OF DRAWING - The drawing shows a communication sequence of the packet count maintaining method.
pp; 11 DwgNo 4/4

Title Terms: PACKET; COUNT; MAINTAIN; METHOD; DATA; TRANSMISSION; SYSTEM; MODIFIED; COUNT; CORRECT; PACKET; LOSS; NORMAL; ACKNOWLEDGE; RECEIVE; END ; RESYNCHRONISATION; PERIOD

Derwent Class: W01

International Patent Class (Main): H04L-012/56

File Segment: EPI

7/5/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

016001067 **Image available**
WPI Acc No: 2004-158918/200416
XRPX Acc No: N04-127008

**Internet network data publication notification procedure for press agency
type material uses notification of registered users from notification
server using SIP protocol**

Patent Assignee: FRANCE TELECOM SA (ETFR)
Inventor: BERTIN E; GRIDA I; POIRIER C; POLOUCHKINE S
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
FR 2842681	A1	20040123	FR 20029216	A	20020719	200416 B

Priority Applications (No Type Date): FR 20029216 A 20020719

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
FR 2842681	A1	22	H04L-012/16	

Abstract (Basic): FR 2842681 A1

NOVELTY - An internet network data publication notification procedure notifies (32) users (2) who have registered with a notification server (4) attached to a public network (1) and has not deregistered to indicate disconnection by **sending** the browser (21) access information address from the server to the user terminal with all messages using the SIP (Session Initiation Protocol) protocol and related authentication procedures.

DETAILED DESCRIPTION - An internet network data publication procedure notifies (32) users (2) who have registered with a notification server (4) attached to a public network (1) and has not deregistered to indicate disconnection by **sending** the browser (21) access information address from the server to the user terminal with all messages using the SIP (Session Initiation Protocol) protocol and related authentication procedures. Includes INDEPENDENT CLAIMS for equipment implementing the procedure including the use of an SIP gateway.

USE - Network data publication procedure for use with browser readable data available over internet networks such as press agency releases.

ADVANTAGE - Avoids problems with firewalls blocking messages from external services and is faster than systems using periodic checking by the user of information on the service provider server. Does not create frequent unfruitful requests for **update** information. Unlike **push** systems does not use a permanent connection to the information server and so does not occupy network capacity with little information exchange. Does **not** risk **notifications** being **lost** in large numbers of e-mails as can happen with e-mail notification systems.

DESCRIPTION OF DRAWING(S) - The drawing is a block diagram of the internet components and message flow used to implement the system.
(Drawing includes non English language text).

Public network (1)
User terminal (2)
Web server (3)
Notification server (4)
Firewall (5)
Browser (21)
Notification from site to notification server (31)
Notification message (32)
pp; 22 DwgNo 1/3

Title Terms: NETWORK; DATA; PUBLICATION; NOTIFICATION; PROCEDURE; PRESS;
AGENT; TYPE; MATERIAL; NOTIFICATION; REGISTER; USER; NOTIFICATION; SERVE;
SIP; PROTOCOL

Derwent Class: W01

International Patent Class (Main): H04L-012/16

File Segment: EPI

7/5/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

015598420 **Image available**
WPI Acc No: 2003-660575/200362
XRPX Acc No: N03-526863

Packet transmission method for wireless integrated networks, involves updating buffer size based on received acknowledgement packet and transmitting indirect acknowledgement packet according to buffer state
Patent Assignee: ELECTRONICS & TELECOM RES INST (ELTE-N); KOREA ELECTRONICS & TELECOM RES INST (KOEL-N); AHN J Y (AHNJ-I); KIM Y J (KIMY-I); LEE M J (LEEM-I)

Inventor: AHN J Y; KIM Y J; LEE M J
Number of Countries: 002 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030117992	A1	20030626	US 2002183348	A	20020628	200362 B
KR 2003054666	A	20030702	KR 200184878	A	20011226	200377
KR 436435	B	20040616	KR 200184878	A	20011226	200468

Priority Applications (No Type Date): KR 200184878 A 20011226

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 20030117992	A1	15	H04J-003/24	
KR 2003054666	A		H04L-012/56	
KR 436435	B		H04L-012/56	Previous Publ. patent KR 2003054666

Abstract (Basic): US 20030117992 A1

NOVELTY - The method involves setting up an indirect acknowledgement timer to a data packet received from a **transmitter**, storing the packet into a buffer and **transmitting** it to a receiver. The buffer size is **updated** based on a received acknowledgement packet. The indirect acknowledgement packet is **transmitted** according to a state of the buffer when the **acknowledgement** packet is **not received** until the time elapses.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a packet transmission apparatus.

USE - Used for **transmitting** packets in wireless integrated networks.

ADVANTAGE - The method **transmits** data packets **without** relaying a duplicate **acknowledgment** packet by equipping an indirect acknowledgement timer at the buffer. The wireless link resources are effectively utilized, which are wasted during the recovery of **lost** packet. The method reduces the required buffer size of the base station by allowing a partial generation of the indirect acknowledgement packet.

DESCRIPTION OF DRAWING(S) - The drawing shows a flowchart illustrating the setting up of an indirect acknowledgement timer according to a **transmitted** data packet from a **transmitter**.
pp; 15 DwgNo 3/6

Title Terms: PACKET; TRANSMISSION; METHOD; WIRELESS; INTEGRATE; NETWORK;
UPDATE ; BUFFER; SIZE; BASED; RECEIVE; ACKNOWLEDGE; PACKET; **TRANSMIT** ;
INDIRECT; ACKNOWLEDGE; PACKET; ACCORD; BUFFER; STATE

Derwent Class: W01; W02

International Patent Class (Main): H04J-003/24; H04L-012/56

International Patent Class (Additional): H04L-012/56

File Segment: EPI

7/5/13 (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

008244998 **Image available**
WPI Acc No: 1990-131999/199017
Related WPI Acc No: 1991-177745
XRPX Acc No: N90-102246

Initialisation and synchronisation algorithm for full duplex line -
awaits receipt of sync . message before terminating transmission after
which receipt on non - sync . message will complete process

Patent Assignee: DATA GENERAL CORP (DATG)

Inventor: ALLEN J D; HILL J V

Number of Countries: 007 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 4910754	A	19900320	US 88252460	A	19880930	199017 B
AU 8940267	A	19900405				199022
EP 371593	A	19900606	EP 89309918	A	19890928	199023
JP 2149051	A	19900607	JP 89255055	A	19890929	199029
CA 1336291	C	19950711	CA 612964	A	19890925	199535
EP 371593	B1	19951102	EP 89309918	A	19890928	199548
DE 68924694	E	19951207	DE 624694	A	19890928	199603
			EP 89309918	A	19890928	

Priority Applications (No Type Date): US 88252460 A 19880930

Cited Patents: A3...9129; EP 140456; GB 1428149; NoSR.Pub; US 3598914; US
4225960; US 4613979

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
-----------	------	-----	----	----------	--------------

EP 371593	A				
-----------	---	--	--	--	--

Designated States (Regional): DE FR GB

EP 371593	B1	E	11	H04J-003/06	
-----------	----	---	----	-------------	--

Designated States (Regional): DE FR GB

DE 68924694	E			H04J-003/06	Based on patent EP 371593
-------------	---	--	--	-------------	---------------------------

CA 1336291	C			H04L-029/08	
------------	---	--	--	-------------	--

Abstract (Basic): US 4910754 A

Incoming signals are reviewed to identify when a **synchronising** signal has arrived. After a **synchronising** signal has been received and the predetermined number of **synchronisation** signals have been **transmitted**, the transmission of **synchronisation** signals is terminated. A timing signal is generated at equal intervals following the receipt of an incoming **synchronisation** signal. The timing signal is used to indicate the first word in each incoming message.

This method is performed at both interfaces. It is triggered upon powering up a system, the occurrence of three consecutive erroneous messages, or the failure to receive any messages in a predetermined amount of time. When used with an error scheme, such as CRC (cyclic redundancy check), this method provides automatic recovery from burst errors or a **missing** clock cycle.

USE/ADVANTAGE - Between two computer chassis. Automatic, without loss of data. No resetting of power sequencing required after hardware or power failure.

Dwg.2/4

Title Terms: INITIALISE; **SYNCHRONISATION**; ALGORITHM; FULL; DUPLEX; LINE;
AWAIT; RECEIPT; **SYNCHRONOUS**; MESSAGE; TERMINATE; TRANSMISSION; AFTER;
RECEIPT; NON; **SYNCHRONOUS**; MESSAGE; COMPLETE; PROCESS

Index Terms/Additional Words: **TWO-WAYEP 37159 3 _A _**

Derwent Class: T01; W01

International Patent Class (Main): H04L-029/08

International Patent Class (Additional): G06F-011/08; G06F-013/38;

H04J-003/06; H04L-007/08; H04L-007/10

File Segment: EPI

11/5/6 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

014003936 **Image available**
WPI Acc No: 2001-488150/200153
XRPX Acc No: N01-361217

**File cyclic multicasting system for client/server network, resends
missing portions of image file to requested client during consecutive
cycles of cyclic multicast session**

Patent Assignee: INTEL CORP (ITLC)
Inventor: GAYMAN J A
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6256673	B1	20010703	US 98213220	A	19981217	200153 B

Priority Applications (No Type Date): US 98213220 A 19981217

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6256673	B1		17	G06F-015/16	

Abstract (Basic): US 6256673 B1

NOVELTY - A client sends a request to the server for transmission of image file, requested image file in transmission queue is sent to the client, through the computer network during first transmission cycle of single cyclic multicast session. During transmission, if another client requests the same file, **missing** portion of the file is resent to the client during second cycle of session.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) Cyclic multicasting method;
- (b) Network system;
- (c) Program for cyclic multicasting of image file.

USE - For transfer of image file e.g. software application program, data file from server to clients through LAN or ethernet.

ADVANTAGE - Since the **missing** portion of image file is sent sequentially in different, consecutive transmission cycles of same cyclic multicast session, network transmission time and bandwidth are reduced to minimum. Also the multicasting allows the clients to concurrently download the image files at any time without the need to **synchronize** with the central servers transmission.

DESCRIPTION OF DRAWING(S) - The figure shows the flowchart for explaining the cyclic multicasting method.

pp; 17 DwgNo 5/9

Title Terms: FILE; CYCLIC; SYSTEM; CLIENT; SERVE; NETWORK; MISS; PORTION;
IMAGE; FILE; REQUEST; CLIENT; CONSECUTIVE; CYCLE; CYCLIC; SESSION

Derwent Class: T01

International Patent Class (Main): G06F-015/16

File Segment: EPI

11/5/9 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

012630276 **Image available**
WPI Acc No: 1999-436380/199937
XRPX Acc No: N99-325699

Data communication control system for personal computer - resends data maintained at data holder when it is judged that reply signal answered from data receiver is not received by receiving side

Patent Assignee: CANON KK (CANO)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 11177539	A	19990702	JP 97346321	A	19971216	199937 B

Priority Applications (No Type Date): JP 97346321 A 19971216

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 11177539	A	15	H04L-001/16	

Abstract (Basic): JP 11177539 A

NOVELTY - When it is judged that reply signal answered from data receiver (101) is **not received** by receiving side with in a preset period, the second **resending** unit **resends** the transmission data maintained at first data holder to data receiver. When it is judged that the reply signal answered from data receiver is abnormal, the first **resending** unit **resends** transmission data to data receiver. DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: Data communication procedure; Memory medium by which computer stored readable program

USE - For control of transmission of multimedia data to PC.

ADVANTAGE - As data is transmitted from data holder, when abnormal reply is informed a **synchronous** communication is made possible.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of printing system which applies data communication control system. (101) Data receiver.

Dwg.1/6

Title Terms: DATA; COMMUNICATE; CONTROL; SYSTEM; PERSON; COMPUTER; DATA; MAINTAIN; DATA; HOLD; JUDGEMENT; REPLY; SIGNAL; ANSWER; DATA; RECEIVE; RECEIVE; RECEIVE; SIDE

Derwent Class: T01; W01

International Patent Class (Main): H04L-001/16

International Patent Class (Additional): G06F-013/00 ; G06F-013/38

File Segment: EPI

11/5/11 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

011467569 **Image available**
WPI Acc No: 1997-445476/199741
XRPX Acc No: N97-371097

Database matching device for multi user system - has agent which extracts
updated information from updation information memory and transmits it
to work stations based on resending request sent by work station

Patent Assignee: NEC CORP (NIDE)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 9204339	A	19970805	JP 9633058	A	19960126	199741 B

Priority Applications (No Type Date): JP 9633058 A 19960126

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 9204339	A	8	G06F-012/00	

Abstract (Basic): JP 9204339 A

The device comprises a number of work stations (1a-1n) connected to an agent (2). The work stations **updates** databases and stores a sequence number corresponding to the **updation** in sequence number storing parts (7a-7n). The **updated** information is also sent to the agent which adds a sequence number to the **updated** information of a database, using a sequence number addition part (23). The log of the **updated** information is stored in an **updating** information memory.

When work stations accesses **updated** information from the agent, comparison parts (8a-8n) compares the sequence number added to the information and the stored sequence number. When a difference is detected, data **resending** request parts (9a-9n) sends a request for **resending** the **updated** information **not received** by work stations to the agent. The agent extracts the **updation** information from **updation** information memory and transmits it to the workstation based on the request.

ADVANTAGE - Facilitates complete and accurate **updation** of information.

Dwg.2/4

Title Terms: DATABASE; MATCH; DEVICE; MULTI; USER; SYSTEM; AGENT; EXTRACT;
UPDATE ; INFORMATION; INFORMATION; MEMORY; TRANSMIT; WORK; STATION; BASED
; REQUEST; SEND; WORK; STATION

Derwent Class: T01

International Patent Class (Main): G06F-012/00

File Segment: EPI

Set	Items	Description
S1	1215457	PUSH? OR PULL? OR DELIVER? OR TRANSMIT? OR SEND?
S2	886960	SYNC OR SYNCHRON? OR SYNCs OR UPDAT? OR UP() (DATE? OR DATI-NG) OR VERSIONING OR REVIS?
S3	267515	MISSING OR LOST OR UNRECEIV? OR "NOT"(N) (RECEIV? OR DELIVER?) OR UNDELIVER?
S4	2318	(NON OR "NOT" OR WITHOUT OR UNNECESSAR?) (3N) (ACK? ? OR ACK-NOWLED? OR NOTIFICATION? OR RECEIPT?)
S5	1	S1 AND S2 AND S3 AND S4
S6	6113	RESEND? OR RETRANSMIT? OR S1(2N) (AGAIN? OR REPEAT? OR RECURS? OR REITERAT?)
S7	7923394	PART OR PARTS OR PARTIAL? OR SOME OR SECTOR? OR "NOT"()ALL OR SELECTED OR PORTION?
S8	72	S6(2N)S7
S9	1	S2 AND S8
S10	22	S1 AND S2 AND S4
S11	909	S1 AND S6 AND S7
S12	52	S2 AND S6 AND S7
S13	70	S11 AND (S3 OR S4)
S14	93	S13 OR S10 OR S9
S15	65	RD (unique items)
S16	46	S15 NOT PY>2001
S17	46	S16 NOT PD>20010124
File	8:EI	Compendex(R) 1970-2004/Oct W5 (c) 2004 Elsevier Eng. Info. Inc.
File	35:	Dissertation Abs Online 1861-2004/Oct (c) 2004 ProQuest Info&Learning
File	202:	Info. Sci. & Tech. Abs. 1966-2004/Nov 02 (c) 2004 EBSCO Publishing
File	65:	Inside Conferences 1993-2004/Oct W5 (c) 2004 BLDSC all rts. reserv.
File	2:	INSPEC 1969-2004/Oct W5 (c) 2004 Institution of Electrical Engineers
File	94:	JICST-EPlus 1985-2004/Oct W2 (c)2004 Japan Science and Tech Corp(JST)
File	111:	TGG Natl.Newspaper Index(SM) 1979-2004/Nov 03 (c) 2004 The Gale Group
File	233:	Internet & Personal Comp. Abs. 1981-2003/Sep (c) 2003 EBSCO Pub.
File	6:	NTIS 1964-2004/Oct W5 (c) 2004 NTIS, Intl Cpyrght All Rights Res
File	144:	Pascal 1973-2004/Oct W5 (c) 2004 INIST/CNRS
File	34:	SciSearch(R) Cited Ref Sci 1990-2004/Oct W5 (c) 2004 Inst for Sci Info
File	99:	Wilson Appl. Sci & Tech Abs 1983-2004/Sep (c) 2004 The HW Wilson Co

17/5/2 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.

05912779 E.I. No: EIP01426692391

Title: Reliable multicast transmissions using forward error correction and automatic retransmission requests

Author: Li, B.

Corporate Source: Norsat International Incorporated, Winnipeg, Man. R2J 3T4, Canada

Conference Title: Canadian Conference on Electrical and Computer Engineering

Conference Location: Toronto, Ont., Canada Conference Date: 20010513-20010516

Sponsor: GENNUM Corp.; Bell Simpatico Canada; IEEE Canada; General Electric Canada

E.I. Conference No.: 58526

Source: Canadian Conference on Electrical and Computer Engineering v 2 2001. p 1145-1150 (IEEE cat n 01TH8555)

Publication Year: 2001

CODEN: CCCEFV ISSN: 0840-7789

Language: English

Document Type: CA; (Conference Article) Treatment: T; (Theoretical)

Journal Announcement: 0110W4

Abstract: Multicasting over a network allows a **sender** to distribute data to multiple receivers. The **sender** simply **sends** the data in question to a pre-determined multicast address, and all receivers interested in this data can listen for it. Multicasting is based on an unreliable transport. A data packet sent by the **sender** may or may not reach an interested receiver and packets received may be out of order. For **some** type applications, such as audio or video multicasting, this may be acceptable. However, for other types of applications, such as file distribution and monitoring, the loss of data is unacceptable. There are many ways to deal with providing reliable **delivery** of data in a multicasting environment. The simplest technique is for each receiver to **send** ACKs or NACKs to the **sender** regarding each packet it received or did **not** **received**, causing the **sender** to **retransmit** any loss packets. Unfortunately, if there is a large pool of receivers, these ACK/NACKs can easily overwhelm the **sender** causing a feedback implosion at the **sender**. We proposed a multicasting system based on a class of forward error correction (FEC) codes called Reed-Soloman Codes to provide redundancy which may allow the receiver to re-construct **lost** packets based on received packets. In the event that the receiver does not have enough packets to re-construct **lost** packets, the receiver will ask the **sender** for **some** additional packets in order to re-construct all the source packets. This paper describes a design and implementation of a system that provides reliable multicasting based on forward error correction and automatic retransmission requests. 6 Refs.

Descriptors: *Multicasting; Data communication systems; Packet switching; Network protocols; Codes (symbols); Reliability; Error correction

Identifiers: Automatic retransmission request (ARQ)

Classification Codes:

721.1 (Computer Theory (Includes Formal Logic, Automata Theory, Switching Theory & Programming Theory)); 723.2 (Data Processing); 922.2 (Mathematical Statistics)

716 (Electronic Equipment, Radar, Radio & Television); 717 (Electro-Optical Communication); 718 (Telephone & Other Line Communications); 721 (Computer Circuits & Logic Elements); 723 (Computer Software, Data Handling & Applications); 922 (Statistical Methods)

71 (ELECTRONICS & COMMUNICATION ENGINEERING); 72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

6-127/04

17/5/9 (Item 9 from file: 8)
DIALOG(R)File 8:EI Compendex(R)
(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.

04506019 E.I. No: EIP96093346797

Title: Simulation-based comparisons of Tahoe, Reno, and SACK TCP

Author: Fall, Kevin; Floyd, Sally

Corporate Source: Lawrence Berkeley Natl Lab, Berkeley, CA, USA

Source: Computer Communication Review v 26 n 3 July 1996. p 5-21

Publication Year: 1996

CODEN: CCRED2 ISSN: 0146-4833

Language: English

Document Type: JA; (Journal Article) Treatment: T; (Theoretical)

Journal Announcement: 9611W3

Abstract: This paper uses simulations to explore the benefits of adding selective acknowledgments (SACK) and selective repeat to TCP. We compare Tahoe and Reno TCP, the two most common reference implementations for TCP, with two modified versions of Reno TCP. The first version is New-Reno TCP, a modified version of TCP without SACK that avoids **some** of Reno TCP's performance problems when multiple packets are dropped from a window of data. The second version is SACK TCP, a conservative extension of Reno TCP modified to use the SACK option being proposed in the Internet Engineering Task Force (IETF). We describe the congestion control algorithms in our simulated implementation of SACK TCP and show that while selective **acknowledgments** are **not** required to solve Reno TCP's performance problems when multiple packets are dropped, the absence of selective acknowledgements does impose limits to TCP's ultimate performance. In particular, we show that **without** selective **acknowledgments**, TCP implementations are constrained to either **retransmit** at most one dropped packet per round-trip time, or to **retransmit** packets that might have already been successfully **delivered**. (Author abstract) 24 Refs.

Descriptors: *Data communication systems; Computer simulation; Network protocols; Packet switching; Local area networks; Congestion control (communication); Algorithms

Identifiers: Selective acknowledgements; Reno TCP; Tahoe TCP; Internet engineering task force

Classification Codes:

716.1 (Information & Communication Theory); 723.5 (Computer Applications); 723.2 (Data Processing)

716 (Radar, Radio & TV Electronic Equipment); 723 (Computer Software)

71 (ELECTRONICS & COMMUNICATIONS); 72 (COMPUTERS & DATA PROCESSING)

17/5/32 (Item 10 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2004 Institution of Electrical Engineers. All rts. reserv.

02047635 INSPEC Abstract Number: C83022478

Title: Martin Marietta Aerospace Integrated Data System (MMAIDS)

Author(s): Borum, C.; Barlipp, M.R.; Salisbury, G.W.

Author Affiliation: US Army Missile Command, Redstone Arsenal, Huntsville, AL, USA

Conference Title: Automation Technology for Management and Productivity Advancements through CAD/CAM and Engineering Data Handling. Proceedings of the Third Symposium on Automation Technology in Engineering Data Handling p.21-5

Editor(s): Cheng-Chao Wang, P.

Publisher: Prentice-Hall, Englewood Cliffs, NJ, USA

Publication Date: 1983 Country of Publication: USA x+323 pp.

ISBN: 0 13 054593 7

Conference Sponsor: Nat. Comput. Graphics Assoc.; Naval Ship Weapon Syst. Eng. Station; Autom. Technol. Inst.; et al

Conference Date: 8-10 Sept. 1981 Conference Location: Monterey, CA, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Applications (A); Practical (P)

Abstract: The need to develop new products in less time than previously customary inspired Martin Marietta to develop a high speed technical communication system linking design organizations, manufacturers, approvers, and users. This paper discusses the approach Martin Marietta took to digitize all engineering drawings, associated documents, and engineering change proposals (ECPs). The two-way transmission of these data between originators, approvers, and users is also discussed. In addition, the compiling, controlling, storage and **updating** of the Master Data Base and subroutines for processing within the system are described. This interactive data processing system automatically assembles engineering data from the different working data bases and converts the data into the Initial Graphics Interchange Systems format. The system provides users with the capability of displaying data in real time or of **transmitting** data in the most economical mode. While users may not modify data, provisions are made for the approval and release of drawings and ECPs by the customer or other authorizing agents. The intent of the system is to ensure that only the required data are **transmitted**. This eliminates bulk transmission of **unnecessary** information yet assures **receipt** of the data required. (0 Refs)

Subfile: C

Descriptors: aerospace computing; CAD; database management systems; manufacturing data processing

Identifiers: CAD; aerospace computing; DBMS; manufacturing DP; Martin Marietta Aerospace Integrated Data System; technical communication system; manufacturers; users; engineering drawings; documents; engineering change proposals; Master Data Base; subroutines; interactive data processing system; engineering data; Initial Graphics Interchange Systems format

Class Codes: C6160 (Database management systems (DBMS)); C7160 (Manufacturing and industry); C7460 (Aerospace engineering)

17/5/35 (Item 2 from file: 94)
DIALOG(R)File 94:JICST-EPlus
(c)2004 Japan Science and Tech Corp(JST). All rts. reserv.

01447489 JICST ACCESSION NUMBER: 92A0051483 FILE SEGMENT: JICST-E.
**Evaluation of an AAL Protocol Having an Error Recovery Function based on
Retransmitting Lost Cells.**

INOUE ICHIRO (1); MORITA NAOTAKA (1); ONISHI HIROKAZU (1)
(1) Nippon Telegraph & Telephone Corp.

Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report
(Institute of Electronics, Information and Communication Engineers),
1991, VOL.91,NO.333(SSE91 94-106), PAGE.1-6, FIG.10, REF.5

JOURNAL NUMBER: S0532BBG

UNIVERSAL DECIMAL CLASSIFICATION: 621.394/.395

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

ABSTRACT: This paper proposes an AAL(ATM Adaptation Layer) type 3 protocol
which has an error recovery function based on **retransmitting lost**
cells. If **some** of the cells composing a frame are **lost**, the
receiver terminal holds correctly received cells and **sends** a message
to the **sender** terminal. On receiving the message, the **sender**
terminal **retransmits** the **lost** cells and the error is recovered. The
retransmission efficiency is calculated and the cell loss rate is
evaluated by simulation. It is shown that higher efficiency and lower
cell loss rate can be achieved using the proposed protocol comparing a
conventional upper layer protocol in which a whole frame is
retransmitted like the HDLC(High-level Data Link Control) procedure.
(author abst.)

DESCRIPTORS: cell structure; request repeat; error correcting capability;
protocol; integrated communication network; asynchronous processing;
data link control; signal frame; digital communication; error
correction; blocking probability

BROADER DESCRIPTORS: metal structure(microstructure); organization;
structure; communication operation; operation(processing); ability;
rule; communication network; information network; network; treatment;
communication control; control; communication system; method; error
control; switching performance; quality; property; ratio

CLASSIFICATION CODE(S): ND11010T

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.